

AMENDMENTS TO THE CLAIMS

1. (Previously Amended) A connection device comprising:
a plurality of input devices adapted to be connected to at least two signal sources;
an output switch adapted to be connected to an electrical device; and
a device electrically connected to said input devices and electrically isolated from said switch, said device in communication with said switch and operative to cause said switch to change from a first state to a second state when there is a signal present at each of said input devices.
2. (Previously Amended) The connection device according to claim 1 wherein said devices connected to said input device includes an AND logic circuit.
3. (Previously Amended) The connection device according to claim 2 wherein each of said input device includes a full wave rectifier connected between the corresponding signal source and said AND logic circuit.
4. (Previously Amended) A connection device comprising:
a plurality of input devices adapted to be connected to at least two signal sources, each of said input devices including a full wave rectifier;
an output switch adapted to be connected to an electrical device; and
a device electrically connected between said input devices and said switch, said device including an AND logic circuit that includes a plurality of optoisolator dual transistors connected in series, said transistors having inputs connected to the outputs of said rectifier bridge circuits such that a current flows through said optoisolator dual transistors only when an input signal is present for all of said rectifier bridge circuits, said device operative to cause said switch to change from a first state to a second state when there is a signal present at each of said input terminals.

5. (Original) The connection device according to claim 4 wherein said output switch is connected to said optoisolator dual transistors and is operable only when said current is flowing through said optoisolator dual transistors.

6. (Original) The connection device according to claim 5 wherein said output switch includes a PNP electronic switching device that is changed from a non-conducting state to a conducting state when said current is flowing through said optoisolator dual transistors.

7. (Currently Amended) The connection device according to claim ~~[[6]]~~ 5 wherein said ~~PNP electronic switching device is~~ said output switch includes a P-channel field effect transistor that is changed from a non-conducting state to a conducting state when said current is flowing through said optoisolator dual transistors.

8. (Original) The connection device according to claim 5 wherein said output switch includes a NPN electronic switching device that is changed from a non-conducting state to a conducting state when said current is flowing through said optoisolator dual transistors.

9. (Currently Amended) The connection device according to claim ~~[[8]]~~ 5 wherein said ~~NPN electronic switching device is~~ said output switch includes a N-channel field effect transistor that is changed from a non-conducting state to a conducting state when said current is flowing through said optoisolator dual transistors.

10. (Currently Amended) The connection device according to claim 9 wherein said ~~[[NPN]]~~ N-channel field effect transistor is connected to a relay coil and is operative to actuate said relay when said ~~[[NPN]]~~ N-channel field effect transistor is

in its conducting state.

11. (Previously Amended) The connection device according to claim 10 further including an input status light emitting diode connected to each of said full wave rectifiers, the input status diode being illuminated when an input signal is present.

12. (Original) The connection device according to claim 11 further including a logic status light emitting diode connected between two of said optoisolator dual transistors, said logic status light emitting diode being illuminated when said current is flowing through said optoisolator dual transistors.

13. (Original) The connection device according to claim 12 further including a separate power supply and ground for said input devices such that said input signals are totally isolated from said output signals.

14. (Original) The connection device according to claim 12 wherein said input signals can be one of current source, current sink and dry contact signals.

15. (Original) The connection device according to claim 5 wherein said output device is compatible with one of current source, current sink and dry contact signals.

16. (Previously Amended) A connection device comprising:
a plurality of input terminals adapted to be connected to at least two signal sources; and
a device connected to said input terminals that is operative to generate an output signal that is directly proportional to a signal appearing at any one of said input terminals.

17. (Previously Amended) The connection device according to claim 16 further including a full wave rectifier circuit having input terminals connected to each of said input terminals, said rectifier circuit having a input status light emitting diode connected to its output terminals, said input status light emitting diode being illuminated when an input signal is present.

18. (Previously Amended) A connection device comprising:
a plurality of input devices adapted to be connected to at least two signal sources, each of said input devices capable to receive one of a current source, current sink and dry contact signals;

an plurality of output devices adapted to be connected to an electrical device, each of said output devices being capable to be connected to one of a current source, current sink and dry contact signals; and

an interface device electrically connected to said input devices and electrically isolated from said output devices, said interface device in communication with said output devices and operative to cause said output devices to change from a first state to a second state when there is a signal present at each of said input devices.

19. (Previously Amended) The connection device according to claim 18 wherein said input includes a full wave rectifier.

20. (Previously Amended) A connection device comprising:
a plurality of input devices adapted to be connected to at least two signal sources, each of said input devices capable to receive one of a current source, current sink and dry contact signals;

a plurality of output devices adapted to be connected to an electrical device, each of said output devices being capable to be connected to one of a current source, current sink and dry contact signals; and

an interface device electrically connected between said input and output devices, said interface device operative to cause said output devices to change from a first state to a second state when there is a signal present at each of said input devices, said interface device including at least one optoisolator dual transistor.

21. (Previously Amended) The connection device according to claim 20 wherein said interface device includes a plurality of optoisolator transistors are connected in series to provide an AND logic circuit.

22. (Original) The connection device according to claim 21 wherein each of said output devices includes one of a P-channel field effect transistor, an N-channel field effect transistor and a relay whereby both said input and output devices are compatible with current source, current sink and dry contact signals.

23. (Original) The connection device according to claim 22 further including a first set terminals adapted to be connected to a first power supply for supplying power to said input devices and a second set of terminals adapted to be connected to a second power supply for supplying power to said output devices whereby said input devices are electrically isolated from said output devices.